Kelly Zhu

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Education

University of Toronto 09/2024 – present
MSc in Computer Science (Supervised by David Lindell) *Toronto, ON*

University of Toronto 09/2019 – 04/2024
BASc in Engineering Science, Machine Intelligence (Supervised by Florian Shkurti) *Toronto, ON*
Minor in Robotics & Mechatronics

Awards & Honours

Vector Scholarship in Artificial Intelligence, $17.5K 2024
Vector Institute, *scholarship for MSc research*

Queen Elizabeth II Graduate Scholarship in Science & Technology, $15K 2024
Government of Ontario, *scholarship for MSc research*

DAAD RISE Germany Scholar, $6K 2023
German Academic Exchange Service, *scholarship for research abroad in Germany*

Research Training Award, $6K 2020
Mitacs, *funding for summer research internship*

Engineering Science Research Opportunity Program (ESROP), $6K 2020
Division of Engineering Science, *funding for summer research internship*

University of Toronto Scholar, $7.5K 2019
University of Toronto, *undergraduate entrance scholarship*

Dean's Merit Award, $2.5K 2019
Faculty of Applied Science & Engineering, *undergraduate entrance scholarship*

Publications

- Yibo Liu, **Kelly Zhu**, Guile Wu, Yuan Ren, Bingbing Liu, Yang Liu, Jinjun Shan. "MV-DeepSDF: Implicit Modeling with Multi-Sweep Point Clouds for 3D Vehicle Reconstruction in Autonomous Driving." *ICCV*, 2023.

Research Experience

Undergraduate Thesis 09/2023 – 09/2024
Robot Vision & Learning Lab (Supervised by Florian Shkurti) *University of Toronto*
- Multi-agent trajectory prediction for sidewalk navigation in autonomous robots
- Uncertainty calibration for perception-based motion planning in autonomous driving

Visiting Research Student 06/2023 – 08/2023
safe.trAIn by Siemens AG (Supervised by Alexander Braun) *Hochschule Düsseldorf*
- Investigated the use of AI-based methods for safe and reliable autonomous train systems

Summer Research Student 05/2021 – 09/2021
Space & Terrestrial Autonomous Robotics Systems Lab (Supervised by Jonathan Kelly) *University of Toronto*
- Designed algorithms for energy-efficient stochastic path planning in planetary navigation

Summer Research Student 05/2020 – 08/2020
Robotics & Automation Lab (Supervised by Andrew Goldenberg) *University of Toronto*
- Prototyped an autonomous bed-making robot on a 6-DoF robot arm mounted on a mobile platform

Industry Experience

Perception Researcher 05/2022 – 04/2023
Huawei Noah's Ark Lab (Supervised by Bingbing Liu) *Markham, ON*

- Research on LiDAR-based 3D scene and vehicle reconstruction for autonomous driving

Autonomy Engineering Intern 05/2021 – 09/2021
Trimble Applanix *Richmond Hill, ON*

- Contributed towards a LiDAR-based SLAM and perception solution for autonomous navigation

Teaching

CSC412 – Probablistic Learning & Reasoning Winter 2025
Teaching Assistant *University of Toronto*

Skills & Languages

Programming Languages: Python, C/C++, MATLAB, Java
Libraries: PyTorch, TensorFlow, NumPy, SciPy, scikit-learn, pandas, Matplotlib, Open3D, OpenCV
Tools: Linux/Unix, ROS, Git, Docker, Kubernetes
Languages: English (native), Mandarin (fluent), French (fluent)